<u>IN THE CLAIMS</u>

The following is a complete listing of the claims, and replaces all earlier versions and listings.

1. - 7. (Canceled)

8. (Currently Amended) A method of encoding digital samples of a set of data representing physical quantities, the encoding including the determination of an amplitude model and of a path between the samples of the set, ~~characterized in that it comprises the steps of~~ <u>the method comprising</u>:

[[-]] determining ~~(S5a, S20a, S25a)~~ a number of samples to encode<u>;</u> [[,]]

[[-]] constructing ~~(S3a, S21a)~~ a list comprising the determined number of samples, classified by decreasing amplitude<u>;</u>

<u>determining an initial list of samples;</u>

<u>calculating an encoding cost as a function of the list of samples; and</u>

<u>modifying the list of samples,</u>

<u>wherein said steps of calculating and modifying are reiterated to find a minimum encoding cost, and</u>

<u>wherein the modification of the list of samples comprises the withdrawal of the sample of least amplitude.</u>

9. (Canceled)

10. (Currently Amended) A method according to claim [[9]] 8, characterized in that it further comprises comprising the step (S10a) of encoding the set of data on the basis of the list of samples which provides the minimum encoding cost.

11. (Currently Amended) A method according to claim [[9]] 8, characterized in that in which the initial list of samples comprises all the samples of the set of data.

12. (Canceled)

13. (Currently Amended) A method according to claim [[9]] 8, characterized in that in which the encoding cost (S6a) comprises the rate of the encoded data.

14. (Currently Amended) A method according to claim [[9]] 8, characterized in that in which the encoding cost (S6a) comprises the distortion of the encoded data.

15. (Currently Amended) A method according to claim 8, of encoding digital samples of a set of data representing physical quantities, the encoding including the determination of an amplitude model and of a path between the samples of the set, the method comprising:

determining a number of samples to encode; and

constructing a list comprising the determined number of samples, classified by decreasing amplitude,

the method further comprising an initialization of an evolutionary algorithm according to which a population of lists of samples is determined, the population comprising a predetermined number of lists, ~~characterized~~ in [[that]] which the determination of the population comprises the steps of:

[[-]] determining ~~(S21a)~~ a first list of samples classified by decreasing amplitude; and [[,]]

[[-]] modifying ~~(S25a)~~ the first list by withdrawal of a predetermined number of samples of lowest amplitude, to form a second list; [[,]]

wherein said [[the]] steps of determining and modifying [[being]] are reiterated by taking the second list of an iteration as the first list for the ~~following~~ next iteration, provided that the predetermined number of lists has not been reached ~~(S23a)~~ and that the second list has a non-zero number of samples ~~(S24a)~~.

16. (Currently Amended) A method according to claim 15, ~~characterized in that~~ in which the population is completed ~~(S26a)~~ by lists picked randomly, if the second list formed has a zero number of samples before the predetermined number of lists has been reached.

17. (Currently Amended) A method according to claim 8, ~~characterized in that~~ in which the set of data is a block of samples formed in a larger set of data.

18. (Currently Amended) A method according to claim 8, ~~characterized in that~~ in which the data are a digital image.

19. - 38. (Canceled)

39. (Currently Amended) A device for encoding digital samples of a set of data representing physical quantities, comprising means for determining an amplitude model and a path between the samples of the set, ~~characterized in that it comprises (2a)~~ the device comprising:

[[-]]   means ~~(22a)~~ for determining a number of samples to encode: [[,]]

[[-]]   means ~~(23a)~~ for constructing a list comprising the determined number of samples, classified by decreasing amplitude:

means for determining an initial list of samples:

means for calculating an encoding cost as a function of the list of samples: and

means for modifying the list of samples,

wherein the operation of said means for calculating and means for modifying is reiterated to find a minimum encoding cost, and

said means for modifying the list of samples are adapted to withdraw the

sample of least amplitude.

40. (Canceled)

41. (Currently Amended) A device according to claim [[40]] 39, characterized in that further comprises comprising means for encoding the set of data on the basis of the list of samples which provides the minimum encoding cost.

42. (Currently Amended) A device according to claim [[40]] 39, characterized in that the wherein said means for determining the initial list of samples are adapted to form [[it]] the initial list of samples to comprise such that it comprises all the samples of the set of data.

43. (Canceled)

44. (Currently Amended) A device according to claim [[40]] 39, characterized in that it is adapted to consider an encoding cost which comprises the rate of the encoded data.

45. (Currently Amended) A device according to claim [[40]] 39, characterized in that it is adapted to consider an encoding cost which comprises the distortion of the encoded data.

46. (Currently Amended) A device ~~according to claim 39,~~ <u>for encoding</u> <u>digital samples of a set of data representing physical quantities, comprising means for</u> <u>determining an amplitude model and a path between the samples of the set, the device</u> <u>comprising:</u>

<u>means for determining a number of samples to encode;</u>

<u>means for constructing a list comprising the determined number of samples,</u> <u>classified by decreasing amplitude;</u>

<u>the device further</u> comprising means for initializing an evolutionary algorithm according to which a population of lists of samples is determined, the population comprising a predetermined number of lists, ~~characterized in that the~~ <u>in which said</u> means for determining the population comprises:

[[-]] means for determining a first list of samples classified by decreasing amplitude<u>; and</u> [[,]]

[[-]] means for modifying the first list by withdrawal of a predetermined number of samples of lowest amplitude, to form a second list,

<u>wherein</u> the operation of [[the]] <u>said</u> means for determining and <u>said means</u> <u>for</u> modifying [[being]] <u>is</u> reiterated by taking the second list of an iteration as the first list for the ~~following~~ <u>next</u> iteration, provided that the predetermined number of lists has not been reached and that the second list has a non-zero number of samples.

47. (Currently Amended) A device according to claim 46, ~~characterized in~~ ~~that it is~~ adapted to complete the population by lists picked randomly, if the second list

formed has a zero number of samples before the predetermined number of lists has been reached.

48. (Currently Amended) A device according to claim 39, ~~characterized in that it is~~ adapted to encode a set of data which is a block of samples formed in a larger set of data.

49. (Currently Amended) A device according to claim 39, ~~characterized in that it is~~ adapted to encode data which are a digital image.

50. (Currently Amended) An encoding device according to claim 39, ~~characterized in that the~~ <u>wherein said</u> means for determining and construction are incorporated in:

[[-]] a microprocessor [[(100)]],

[[-]] a read only memory [[(102)]], comprising a program for processing the data, and

[[-]] a random access memory [[(103)]] comprising registers adapted to record variables modified during the execution of said program.

51. - 69. (Canceled)